DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-018413
Date Inspected: 23-Nov-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 1000
OSM Departure Time: 1830
Location: Job Site

CWI Name: Bonifacio Daquinag and Steven Mc Connell

CWI Present:	☑ Yes	☐ No					
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: Orthotropic Box Girder

Summary of Items Observed:

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At OBG 7W/8W side plate ‘E’ (7900mm to 9955mm) inside, QA noted this location was already completed and the welder has moved to a new location (9955mm to 10555mm) of the same plate. QA randomly observed ABF/JV qualified welder Sungtao, Huang ID # 3794 perform CJP groove welding fill pass on the splice butt joint. The welder was observed welding in the 3G (vertical) position utilizing a Shielded Metal Arc Welding (SMAW) with 1/8” diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1040A. The joint being welded has a single V-groove butt joint with backing bar. The splice joint was preheated to remove moisture from the steel plate using propane gas torch prior welding. Most of the weld joint on this splice was welded with FCAW-G but due to limited access of the track mounted Bug-o nozzle holder, the welder has to use SMAW. ABF Quality Control (QC) Steven Mc Connell was noted monitoring the welding parameters of the welder. At the end of the shift, fill pass welding of the splice joint at location mentioned above was still continuing and should remain tomorrow.

At OBG 8W/9W bottom plate ‘D’ inside, ABF welder Jin Pei Wang was observed perform root pass welding at the south side (1200mm long) of the splice butt joint. The welder was noted welding at 1G (flat) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16” diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3040A-1. The joint being welded has a single V-groove butt joint with backing bar. The splice joint was preheated and maintained to

greater than 150 degrees Fahrenheit using Miller Proheat 35 Induction Heating System heater blankets located at the opposite side of the plate prior/during welding. ABF Quality Control (QC) Steven Mc Connell was noted monitoring the welding parameters of the welder. At the end of the shift, fill pass welding of the splice joint at location mentioned above was completed and the welder was noted grinding/cleaning his weld.

At OBG 8E/9E edge plate 'B' outside, QA randomly observed ABF/JV qualified welder Fred Kaddu ID # 2188 perform CJP groove root pass welding. The welder was observed welding in the 3G (vertical) position utilizing Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1040B. The joint being welded has a single V-groove butt joint with copper backing bar. Prior welding, the fit up alignment of the joint was verified by fellow QA Danny Reyes. ABF Quality Control (QC) Bonifacio Daquinag was noted monitoring the welding parameters of the welder. At the end of the shift, root pass welding of the splice joint at location mentioned above was completed.

At OBG 8E/9E edge plate 'F' outside, QA performed the fit up verification as requested by ABF QC Bonifacio Daquinag. QC has informed beforehand to this QA that there was one location that exceeded the allowed alignment mismatch. QA noted that from Y-dimension 0mm to 105mm there was a mismatch of 3mm to 4.5mm and from Y-dimension 105mm to 240mm there was a mismatch of 4.5mm to 4mm. QC informed this QA that ABF will map this misalignment reading and submit it to ABF for review since there is no more room for adjustment. At the end of the shift, QC Bonifacio Daquinag confirmed to this QA by showing the map out detailed drawing of the misalignment accompanied by QC Fit Up Inspection Report. According to QC, as normal ABF protocol, this fit up and misalignment report will go to Smith Emery documentation controller Mr. William Norris and then forwarded to ABF QC Manager for review and if accepted, for final review and approval by Caltrans.

At OBG 8E/9E top deck plate 'A' outside, QA randomly observed ABF/JV qualified welder Wai Kitlai perform CJP repair welding. The welder was noted welding in 1G (Flat) position utilizing Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1001 Repairs. The four welded repairs were excavated to a boat shape profile and were tested with Magnetic Particle Testing (MT) prior welding. During welding, ABF QC Steven Mc Connell was noted monitoring the welder and his welding parameters. The locations of the repairs were noted below;

Location Y-dimension Profile dimension Remarks
1. A1 Y-4960mm 140mm long x 25mm wide x 14mm deep Completed
2. A1 Y-5410mm 130mm long x 25mm wide x 14mm deep Completed
3. A2 Y-2820mm 115mm long x 25mm wide x 14mm deep Completed
4. A2 Y-3020mm 120mm long x 25mm wide x 14mm deep Completed
5. A2 Y-5400mm 85mm long x 25mm wide x 14mm deep Excavated
6. A3 Y-1940mm 140mm long x 25mm wide x 14mm deep Excavated

Summary of Conversations:
No significant conversation today.
Comments
This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or

remedial efforts please contact SMR Nina Choy, 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Lizardo,Joselito	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer